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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/564,371
Filing Date: July 19, 2006
Appellant(s): DANZ ET AL.

Jong H. Lee (Reg. No. 36,197)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/24/2009 appealing from the Office action mailed 10/30/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments after Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Prior Arts of Record

| | | |
|-----------------|----------------|--------|
| US 2002/0041239 | Shimizu et al | 4-2002 |
| US 7038577 | Pawlicki et al | 4-2003 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 11-12, 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al (US 2002/0041239) in view of Pawlicki et al (US 7038577).

As to claim 11, referring to Fig. 1 and 6, Shimizu et al disclosed a parking aid system includes a display unit to visually display to a driver a target parking position, a subject vehicle

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position, an expected parking position in the case where the subject vehicle travels with a predetermined steering angle, and an operation switch for selecting a parking aid mode (§0008, line 2-6). Further, the parking aid system includes a display unit to visually display to a driver a target parking position, a subject vehicle position, an expected parking position in the case where the subject vehicle travels with a predetermined steering angle, and an operation switch for selecting a parking aid mode (§0010).

Shimizu et al did not disclose determining potential intersection with oncoming traffic and providing a warning signal. However, one of ordinary skills in the readily recognizes that when a driver is trying to parking in this situation, oncoming traffic avoidance would prevent head on collision. Furthermore, oncoming traffic detection system is well known in the art and widely used. Pawlicki et al teach a object detection system for vehicle wherein the lane departure warning system may be operable in response to a single forward facing camera to monitor the lane markings 113e along the road surface and monitor the potential presence of oncoming traffic in an adjacent lane or lanes. Once the presence of oncoming traffic has been established, the lane departure warning system may issue an urgent audible warning if the vehicle begins to cross the lane marking 113e. Furthermore, if the vehicle has already begun to cross into the oncoming traffic lane before oncoming traffic is detected, the lane departure warning system may issue the urgent warning when oncoming traffic is detected. Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to incorporate determining potential intersection with oncoming traffic and providing a warning signal in Shimizu's system in order to avoid head on collision.

As to claim 12, still referring to Fig. 6, Shimizu et al show the subject vehicle position and expected (i.e. final) parking position.

As claim 14, the claim is interpreted and rejected as claim 11.

As claim 15, the claim is interpreted and rejected as claim 11.

As claim 16, the claim is interpreted and rejected as claim 11.

As claim 17, the claim is interpreted and rejected as claim 11.

As claim 18, the claim is interpreted and rejected as claim 11.

As to claim 19, Shimizu et al teach a controller 1 including a microcomputer.

As claim 20, the claim is interpreted and rejected as claim 11.

(10) Response to Argument

1) On page 5, line 9, applicant argues that nothing in Shimizu or Pawlicki suggests anything even remotely related to "determining a position of the oncoming lane in relation to the vehicle at a beginning of the parking operation." In Shimizu, the parking assistance system utilizes a maximum steering angle, i.e., the "expected parking position is set at a position that the subject vehicle reaches when reversing with the steering wheel turned fully to the left" (Shimizu, Abstract), and there is simply no consideration at all regarding the oncoming lane, let alone "determining a position of the oncoming lane in relation to the vehicle at a beginning of the parking operation." Similarly, there is simply no disclosure in Pawlicki regarding "determining a position of the oncoming lane in relation to the vehicle at a beginning of the parking operation."

Shimizu et al did not disclose determining potential intersection with oncoming traffic and providing a warning signal. However, one of ordinary skill in the art would readily recognize that it is quite common for a vehicle to park along a busy street (or multi-lane) and when a driver is trying to park in this situation, the vehicle will veer toward the median line and often across into the oncoming lane, potentially colliding head on with oncoming traffic. Therefore, in this situation collision avoidance would be desirable which would prevent a head on collision. Furthermore, oncoming traffic detection system is well known in the art and widely used. Pawlicki teach a object detection system for vehicle wherein the lane departure

warning system may be operable in response to a single forward facing camera to monitor the lane markings 113e along the road surface and monitor the potential presence of oncoming traffic in an adjacent lane or lanes. Once the presence of oncoming traffic has been established, the lane departure warning system may issue an urgent audible warning if the vehicle begins to cross the lane marking 113e. Furthermore, if the vehicle has already begun to cross into the oncoming traffic lane before oncoming traffic is detected, the lane departure warning system may issue the urgent warning when oncoming traffic is detected.

2) On page 5, line 19, applicant argues that second, with respect to the claimed feature of "determining at least one potential intersection of the anticipated parking trajectory with the oncoming lane," the Examiner's citation of Pawlicki simply does not support the obviousness conclusion. In support of the rejection, the Examiner contends on page 3 of the Final Office Action that "the lane departure warning system [of Pawlicki] may be operable in response to a single forward facing camera to monitor the lane markings 113e along the road surface and monitor the potential presence of oncoming traffic in an adjacent lane or lanes." However, the lane-departure warning system of Pawlicki has absolutely nothing to do with a parking-assistance technique, and there is clearly no suggestion in Pawlicki regarding determination of an intersection of "the anticipated parking trajectory with the oncoming lane."

Even though Pawlicki did not teach determination of an intersection of "the anticipated parking trajectory with the oncoming lane", one of ordinary skill in the art clearly recognizes that when parking a vehicle along a street, the vehicle will veer toward the median line and often

across into the opposite incoming lane, which is a well known parking trajectory, whether anticipated or not anticipated.

3) On page 6, line 8, applicant argues that given the fact that the present specification unequivocally describes detection of a car's protrusion into "oncoming lane 16" (see, e.g., Substitute Spec., p. 5, l. 1), and given the fact that the present specification does not in any way equate "oncoming lane" with "oncoming traffic," there is simply no basis to contend that the claimed "oncoming lane" language should be interpreted as "oncoming traffic."

First, Pawlicki teaches an object detection system for a vehicle wherein the lane departure warning system may be operable in response to a single forward facing camera to monitor the lane markings 113e along the road surface and monitor the potential presence of oncoming traffic in an adjacent lane or lanes. The lane marking 113e clearly defines "oncoming lane", regardless if there is oncoming traffic or no oncoming traffic.

Second, clearly, claimed language is meant oncoming traffic, i.e., vehicle(s), otherwise, if it is just a permanent empty lane(s), then there will be no potential danger to be monitored and the vehicle can cross the oncoming lane at anytime.

4) On page 6, line 24, applicant argues that the fact that the lane-departure warning system of Pawlicki is fundamentally unrelated to the present claimed invention is highlighted by the different triggering events for the warning signal in Pawlicki and in the present claimed invention. In the Pawlicki system, even "if the vehicle has already begun to cross into the

oncoming traffic lane before oncoming traffic is detected, the lane departure warning system may issue the urgent warning when oncoming traffic is detected," (col. 25, 1.17-20), i.e., the triggering event for the warning is not merely crossing the lane, but whether oncoming traffic is actually detected. This is fundamentally different from the present claimed invention which conditions the issuance of an alert signal (or a signal to trigger automatic braking) on the presence of intersection of the parking trajectory with the oncoming lane.

In the Pawlicki system, even "if the vehicle has already begun to cross into the oncoming traffic lane before oncoming traffic is detected, the lane departure warning system may issue the urgent warning when oncoming traffic is detected," (col. 25, 17-20), i.e. even if there is no oncoming traffic, as long as the vehicle begun to cross into the oncoming traffic lane, a warning will be issued; this is exactly the same as the claim wherein "intersection of the parking trajectory with the oncoming lane".

5) On page 7, line 6, applicant argues that still further, the overall teachings of Shimizu and Pawlicki contradict the modification asserted by the Examiner. Shimizu reference clearly indicates that an object of the invention is to simplify and reduce the cost of its system, e.g., "there is no need for an image processing device for detecting the target parking position or need for calculation of the driver's operations required for moving the subject vehicle along an expected trajectory, the parking aid system can be realized with very low cost." (Shimizu, paragraph [0009]). In contrast, Pawlicki relies heavily on image gathering, processing, and calculating to detect edges of images to determine whether something is a vehicle or an object of

significance. Thus, not only does Shimizu teach away from Pawlicki, but the asserted modification would clearly defeat the purpose and intent of the Shimizu reference, thereby negating the obviousness conclusion as a matter of law.

The Shimizu reference does not involve the features of oncoming traffic collision avoidance, however, parking along a multi-lane street is a situation that is more complex and an oncoming traffic collision avoidance would be needed in order to avoid a potential accident. Even though Shimizu reference indicates that an object of the invention is to simplify and reduce the cost of its system, added function of collision avoidance would provide safety features not existed in the Shimizu's system; therefore, there is no meaningful comparison between Shimizu's system and combined system of Shimizu and Pawlicki as to the cost or simplicity.

(11) Related Proceeding(s) Appendix

None

(12) Oral Argument

None

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Hongmin Fan

Nov. 9, 2009

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